

**Applicant Name** Pondera County Conservation District  
**Project Name** Marias River System Improvements

### Project Abstract

A Compilation and Evaluation of Baseline Information report by the Montana Bureau of Mines and Geology (MBMG) (November 22, 2005) for the Liberty County Conservation District and the Montana Department of Environmental Quality (DEQ), states:

"The greatest obstacle to describing water-quality and water-quantity in the Marias River watershed is the paucity of area-wide, time-coincident data. Several good investigations of surface-water and ground-water resources have been conducted over the past four or five decades, but only one has included the entire watershed: a report sponsored by the Montana Department of Health and Environmental Services in 1975. Far too many changes in-land and water-use have taken place to rely on 30 year old data regardless of its quality. The U.S. Geological Survey (USGS) gauging stations provide the only long-term surface-water data in the watershed. As discussed, only one station on the main stem of the river has a period of record for water quality beyond a few years; the collection of that data ceased nearly 20 years ago.

"Without area-wide surface-water and ground-water data, evaluation of the watershed is limited to investigations whose scope was limited with respect to area, amount of data, or type of data. Regardless of the quality of data, there is very little overlap in time and it is an ill conceived approach to compare these types of data across time. A scientifically sound and defensible evaluation of any watershed requires a comprehensive, concurrent effort of data collected. Equally important, the evaluation requires concurrent, seasonal data from both surface-water and groundwater coordinated with a good understanding of the ground-water - surface-water flow paths. Such data are lacking in the Marias River watershed; the proposed plan for collecting concurrent surface water and ground-water data, both quality and quantity is critical for a better evaluation."

In 2005, the Marias River Watershed (MRW) technical coordinator and the Department of Natural Resources and Conservation (DNRC) watershed specialist began a detailed on-the-ground riparian assessment and sampling project of Pondera Coulee (74 river miles) and the upper mainstem of the Marias River above Lake Elwell and below the dam to the Circle Bridge (78 river miles).

The stream corridor assessment was to:

- Evaluate the fluvial geomorphology of the Marias River and Pondera Coulee to determine how channel behavior has responded to natural processes and human influences. Data will be collected to help understand the extent and impacts of the following: noxious weed infestations, streambank erosion, transportation corridors, streambank stabilization measures, and in-channel infrastructure (irrigation, stream crossings, etc.);
- Evaluate how riparian vegetation characteristics are related to channel types and land management practices;
- Provide various historic and current Geographic Information System (GIS) layers of stream corridor features that will serve as a baseline for monitoring trend over time; and
- Identify opportunities for improving and maintaining stream channel stability, riparian plant community health, and fish habitat. The assessment will provide information to assist in determining priority projects and to support future requests for technical and financial assistance for stream corridor projects.

The objectives of this grant request are:

- Provide a sound baseline of current watershed status by completing a two-year follow-up to the 2005 data collection on the Pondera Coulee and Marias River;
- Develop baseline data for the Dry Fork Tributary;
- Purchase monitoring equipment for local watershed data collection;
- Provide local data collection training;

- Develop a locally maintained web-access database of water quality information; and
- Establish a long-range plan for consistent and credible monitoring.